

# WHITEFISH

## TRANSPORTATION PLAN - 2007

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ROBERT  
PECCIA &  
ASSOCIATES





# WHITEFISH

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## TRANSPORTATION PLAN - 2007



*Prepared For:*

**City of Whitefish**

Whitefish, Montana

*In Cooperation With:*

**City of Whitefish**

**Montana Department of Transportation**

**Federal Highway Administration**

*Adopted By:*

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## EXECUTIVE SUMMARY

It is the intent of this Transportation Plan to serve as a guide for the future of the Whitefish area transportation system. The Plan describes the existing system, and identifies large and small improvements for the transportation network. The recommendations made in this document cover all modes of transportation, including travel by private vehicle, public transportation, foot and bicycle modes. Recommended projects are intended to relieve existing problems and prepare the Whitefish transportation system to meet future needs.

Transportation issues have been elevated in the past few years. The community has had several important master planning projects in process and/or completed. Because of the focus on community planning, coupled with the heightened awareness of growth and transportation impacts, it was decided that a comprehensive Transportation Plan should be assembled in the community. Although the Transportation Plan can be viewed as a “fresh look” at transportation issues, it also serves to assemble appropriate recommendations from all the previous planning efforts and incorporate them into one succinct document. The community has changed over the years, and growth issues seem to dominate local newspapers and media attention. Managing growth is an important component of the *Whitefish Growth Policy*. Providing amenities that keep people in the community is a quality of life issue.

Another reason that has necessitated the development of the Transportation Plan has to do with the issue of Wisconsin Avenue. The City of Whitefish has been collecting funds for eventual improvements to this roadway for several years under the “Urban Highway System (STPU)” funding program. To date, the City has a balance of \$773,006 and continues to be allocated \$117,074 on an annual basis from the Federal and State. Since this available money will not be enough to fund a full corridor reconstruction project, the intent was for this Transportation Plan to offer incremental improvements along the corridor to satisfy safety and operational needs until which time a major project could be contemplated.

Perhaps the biggest catalyst for undertaking this Transportation Plan effort was the recent completion of the Whitefish *Downtown Business District Master Plan*. This important planning document “...identifies opportunities to increase the vitality of the downtown business district”. This master plan has a transportation component, and outlines the direction the community would like to head for its transportation system within the downtown core. The Plan was prepared around the same time as the *Environmental Impact Statement (EIS) Re-Evaluation* of the US Highway 93 corridor that was being completed by the consulting firm of WGM Group (Missoula, Montana). This parallel project was assessing the recommendations for traffic flow provided in the early 1990’s via the *US Highway 93 Somers to Whitefish West Environmental Impact Statement (EIS)*. This document set forth a direction for transportation improvements for the downtown core. The conclusions reached by WGM Group were that the preferred alternative provided for in the original EIS was no longer suitable based on traffic operations parameters (turning movements, geometry, turning vehicles), as well as based on community preferences and changes over the past decade. This did cause community and State planners to step back and question how best to proceed with public money expenditures. Because of this conclusion, it was decided that due to the heightened relevance of the recent *Downtown Business District Master Plan*, and due to the conclusion that the original preferred alternative from the 1993 EIS may no longer be appropriate, that additional study of the downtown US Highway 93 corridor would be warranted. This was to be in the form of a “Pre-NEPA” corridor study.

NEPA stands for the National Environmental Protection Act, and is the Federal legislation that guides the development of transportation projects and the subsequent expenditures of Federal money for such projects. Rather than opening up a formal Environmental Impact Statement (EIS) process to examine the downtown core, the Pre-NEPA studies allow greater flexibility in examining options for a roadway system.

To complete the Pre-NEPA corridor study, Robert Peccia & Associates was retained in January of 2007. It was decided that before detailed work on the downtown corridor could commence, though, a **parallel project of completing the community-wide Transportation Plan should be entertained**. Therefore, this document is the result of that effort, and looks at the greater community and its transportation needs, absent of a detailed look at the downtown core. **The downtown Pre-NEPA corridor study is thus contained in a separate, companion document and is referenced as such herein.**

The development and implementation of a Transportation Plan is a good tool for managing growth and accommodating development needs. Not only do Transportation Plans provide analysis and mitigation for the existing transportation system currently being utilized, it also provides an opportunity to “look into the crystal ball” to try and predict future growth – where it is likely to happen, when it is likely to happen, and how much of it is likely to occur. More importantly, by predicting this growth the community can be primed to deal with it before infrastructure problems become apparent. This is one of the fundamental goals of developing a Transportation Plan – identifying transportation system needs before it is too late. By doing so, planners and community leaders can begin to plan and program needed infrastructure improvements pertinent to the transportation system.

Through the *Whitefish Growth Policy*, several transportation goals and issues were identified as being important to the community. These were confirmed through the development of this project. The Growth Policy Update did a commendable job at capturing the flavor and issues important to the community’s citizens. The identified issues related to “transportation” as identified in the *Whitefish Growth Policy* are contained herein, along with a brief statement offering how and/or if the issue has been addressed via this Transportation Plan:

- Off-street routes called for in the Pedestrian and Bikeway Master Plan are often located along the Whitefish River, cross local streams, or traverse environmentally sensitive areas.

*This Transportation Plan supports the planned on-street and off-street non-motorized system. This information is documented in both **section 2.8 of chapter 2**, and also **section 8.5 of chapter 8**.*

- Parallel collectors along both sides of Hwy. 93 South are not yet complete. This adds to congestion on Hwy. 93 South (Spokane Avenue) during peak hours.

*This Transportation Plan supports the concept of parallel collectors to US Highway 93. Parallel collector roadways have been modeled using the travel demand model (see **chapter 3**), and projects have been recommended (**MSN-1** and **MSN-3** in **chapter 8**) to support this concept.*

- Mainly because of the Whitefish River, east-west street access is limited.

*This Transportation Plan recognizes the lack of east-west connectivity in the community. Several different crossings of the Whitefish river have been modeled using the travel demand model (see **chapter 3**), and projects have been recommended (**MSN-4** and **MSN-10** in **chapter 8**) to support this important need in the community.*

- Whitefish High School and Muldown Elementary are located within the eastside residential neighborhood. Therefore, daily traffic generated by the two schools infiltrates surrounding neighborhoods, and is a source of frequent complaints.

*This Transportation Plan recognizes the impact that school related traffic has on the surrounding neighborhoods. Issues associated with school related traffic have been identified in chapter 6 of this Transportation Plan. Specific projects have been developed to strengthen the transportation network in this area in hopes of providing choices for private automobile travel. Specific projects in the school area that will help to alleviate these complaints are projects **MSN-5**, **MSN-15**, and **TSM-2** described later in **chapter 8**.*

- Big Mountain Road provides the only general access for the Whitefish Mountain Resort as well as the many residential subdivisions on Big Mountain.

*This Transportation Plan supports the conclusions portrayed in the Big Mountain Neighborhood Plan regarding primary and secondary access to the resort. Due to topography and other constraints, it is likely not feasible to develop an additional primary access serving the Big Mountain Resort. Allowances for secondary emergency access (mainly egress) is in place and should accommodate emergency situations that could potentially arise.*

- The Wisconsin Avenue viaduct is the only grade-separated crossing of the BNSF rail facilities connecting downtown Whitefish to the northern neighborhoods of the city, to Iron Horse, and to Big Mountain.

*This Transportation Plan recognizes the impact that having only one grade separated crossing of the BNSF rail facilities has on overall traffic flow. Different locations for additional crossings were modeled in **chapter 3**. It is recommended in the Transportation Plan to plan for an additional crossing near the theoretical extension of Kalner Lane (Cow Creek area). This will be a feasible location in that it will only cross one rail line and will benefit both existing and the future land uses towards the southeast and northeast parts of the community (reference projects **MSN-6** and **MSN-7** in **chapter 8**).*

- Street standards should be “neighborhood sensitive” in much the same manner as land development regulations. Also, flexibility is needed in infill projects and in environmentally sensitive areas.

*This Transportation Plan recognizes this desire and agrees with the neighborhood, local context street standards presented in the Growth Policy. They are reiterated in this Transportation Plan in **chapter 9**. It must be made clear, though, that for most local streets, the local government entity (in this case the City of Whitefish) has direct control over roadway geometry and function, and can therefore dictate roadway typical section appearance. For roadways that are generally collector and above (i.e. minor arterial, principal arterial, interstate), if the facilities are on the Federally adopted “urban aid system” then the roadway geometry is*



*dictated by Montana Department of Transportation (MDT) roadway standards. This is an important point, because the MDT does utilize “urban design standards” for the various roadway types classified as collectors and above based on dialogue and consensus with many local Montana governments dating back to the early 1990’s.*

- Residential collectors should be designed to carry traffic efficiently, but also to control vehicle speeds through residential neighborhoods.

*This Transportation Plan recognizes this concept and offers general guidance on types of traffic calming features that may be appropriate for the community to consider on various roadways. This guidance is contained in **chapter 7** of the Transportation Plan.*

- U.S. Hwy 93 runs through the middle of downtown, dividing it into a north half and south half at 2<sup>nd</sup> Street. A by-pass of some kind has long been discussed in the community, but transportation planning thus far has shown it to be infeasible.
- *The concept of a “by-pass” is not carried forward in this Transportation Plan. For a “by-pass” project to be justifiable, it must prove to be a substantial benefit under both present day and future conditions, and be weighted heavily against all impacts (i.e. environmental, financial, neighborhood sensitivity, etc.). A discussion of the effort made regarding a “by-pass” in this Transportation Plan is presented in **chapter 3**, and also summarized in **chapter 9**. The approved US Highway 93 Somers to Whitefish West Final Environmental Impact Statement (FEIS) concluded a potential “by-pass” to be unwarranted.*

A few words must also be made about the concept of a bypass in the community. **This Transportation Plan does not recommend the development of a bypass corridor** to the existing US Highway 93 facility through the community. The concept of a bypass has historically been debated. Proponents of the bypass have stated that it will reduce overall traffic volumes in the downtown, detour high truck traffic and make the business district more “community oriented”. Opponents of the bypass have stated that a bypass would never be built, would likely cause unacceptable environmental consequences and would be financially unattainable.

This Transportation Plan did examine a potential westerly bypass via a travel demand modeling exercise, and also has looked at other constraints associated with potential routes. These have been explained in **chapter 3** of this Transportation Plan. From a pure traffic analysis discussion, a bypass does not solve the future traffic issues examined out to the planning horizon (year 2030) along US Highway 93. Although proponents find this hard to believe, the fact is that if a bypass is to be considered as feasible, it must show significant traffic reduction to its parallel facility to warrant the expense and environmental consequences of its development. Travel demand modeling of the various bypass alternatives do not show a bypass as a “cure-all” to the future traffic issues associated with US Highway 93 traffic flow. The community of Whitefish is better served by strengthening the transportation grid system, providing additional east/west connectivity, and requiring roadway corridor development in vacant land **if and when** the land develops.

The recommended projects contained in **chapter 8** will all serve to contribute to a strong grid street system that will provide choices for the traveling public. This should be tempered with other transportation system improvements and policies, such as public transit and non-motorized facilities, that have been recommended elsewhere in this Transportation Plan.



It must be acknowledged that under current funding conditions, the focus should be on getting the most out of the existing transportation system. The bigger projects should come in parallel to private development requests (with some exceptions). Outside of the development realm, the following **opportunities** should be fully considered with each and every transportation project:

- Continue to make pedestrian and bicycle travel amenities a normal part of transportation system planning. There will of course be cases where non-motorized travel modes may not be feasible due to right-of-way constraints, topography, etc., but as a matter of practice every effort should be made to incorporate non-motorized facilities in planning activities.
- In newly developing areas, plan for a “grid” transportation system wherever possible.
- Continue to support transit activities wherever possible. Planning for the future with transit needs in developments, actively seeking out grants, and heightening awareness of the community’s transit system can ensure that transit will not get “left behind” as the community goes forward with their transportation system.
- It is crucial to forge partnerships amongst all governmental jurisdictions as the future transportation system is created.

Regarding growth, it is intuitive that the connection between land use and transportation is of the utmost importance. The Whitefish area, and the Flathead Valley in general, is one of the fastest growing areas within Montana. Development patterns are aggressive, and potential land use changes estimated for this transportation planning exercise mimic those projections made for the *Whitefish Growth Policy*. Known and potential development projects were examined both within the planning study area boundary as well as outside the study area boundary. This was extremely important, since this becomes the input for the travel demand model that allows future traffic conditions to be developed and known. The model relies on future housing (dwelling units), “retail” employment (jobs), and “non-retail” employment (jobs).

The result of all of this combined residential and employment growth translates into additional traffic and higher demands on the transportation system. Traffic volume growth in the greater Whitefish area was projected using a computer traffic model. The model used current socio-economic data and growth trends to project traffic volumes. These projected traffic volumes were used to help identify future traffic problems within the area.

This Plan also supports the concept of “traffic calming”. Historically used as a response to transportation issues on local streets, traffic calming is increasingly being used in new street design to provide pedestrian amenities and ward off future problems associated with vehicle speeds and cut-thru traffic. The City of Whitefish has used certain forms of traffic calming (for example in the Creekwood neighborhood), and this Transportation Plan takes this subject one step further and presents a petition process by which a neighborhood can go forward with a traffic calming request. Also included are examples and guidelines for what types of traffic calming might be appropriate and when.

The analysis of the existing and future traffic conditions indicated a need for a variety of improvements in the area. These improvements are presented in two categories: Transportation System Management (TSM) improvements and Major Street Network (MSN) improvements (contained in **chapter 8**). A total of seven TSM projects are recommended, at an **estimated cost of about \$1,050,000**. The MSN projects focus on upgrading entire road corridors and the construction and/or rehabilitation of roadways. Twenty-one MSN improvements are recommended, at an **estimated cost of approximately \$61,040,000**. Future prioritization of projects presented in this document are at the discretion of the various governing authorities within the planning area.

Although this document is a tool that can be used to guide development of the transportation system in the future, local and state planners must continually re-evaluate the findings and recommendations in this document as growth is realized and development occurs. If higher than anticipated growth is realized in the community, or if growth occurs in areas not originally planned for, transportation needs may be different from those analyzed in this plan. An update and re-evaluation of this document should occur every five years, at a minimum, due to the explosive growth that is occurring within the community.

Lastly, tough decisions regarding allowable land use and associated mitigation measures will be in need of constant evaluation as the community grows. The potential for “growth management” areas could be quite feasible in the study area boundary, given the growth predicted and the inability of transportation infrastructure to keep up with the growth.

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## DEFINITIONS / ACRONYMS

### **DEFINITIONS**

**Access Management/Control** – Controlling or limiting the types of access or the locations of access on major roadways to help improve the carrying capacity of a roadway, reduce potential conflicts, and facilitate proper land usage.

**Average Daily Traffic (ADT)** – The total amount of traffic observed, counted or estimated during a single, 24-hour period.

**Annual Average Daily Traffic (AADT)** – The average daily traffic averaged over a full year.

**Americans with Disabilities Act (ADA)** – The Federal regulations which govern minimum requirements for ensuring that transportation facilities and buildings are accessible to individuals with disabilities.

**Bikeway** - Any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

**Bike Path** - A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.

**Bike Lane** – a portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

**Bike Route** – A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without a specific bicycle route number.

**Capacity** – The maximum sustainable flow rate at which vehicles can be expected to traverse a roadway during a specific time period given roadway, geometric, traffic, environmental, and control conditions. Capacity is usually expressed in vehicles per day (vpd) or vehicles per hour (vph).

**Collector Street** – Provides for land access and traffic circulation within and between residential neighborhoods, and commercial and industrial areas. It provides for the equal priority of the movement of traffic, coupled with access to residential, business and industrial areas. A collector roadway may at times traverse residential neighborhoods. Collectors are generally defined as Urban Collectors or Rural Minor/Major Collectors. Urban Collectors provides a channel for local street traffic to access arterials. Rural Major Collectors serves important travel generators (i.e. County Seats, consolidated schools, etc.) while Rural Minor Collectors provide land use access and are spaced at intervals consistent with population density. Posted speed limits on collectors typically range from 25 mph to 45 mph.

**Congested Flow** - A traffic flow condition caused by a downstream bottleneck unable to pass through unsignalized intersections.

**Context Sensitive Design (CSD)** - A fairly new concept in transportation planning and highway design that integrates transportation infrastructure improvements to the context of the adjacent land uses and functions, with a greater sensitivity to transportation impacts on the environment and communities being realized.

**Delay** - The amount of time spent not moving due to a traffic signal being red, or being unable to pass through an unsignalized intersection.

**Facility** – A length of highway composed of connected section, segments, and points.

**Level of Service (LOS)** - A qualitative measure of how well an intersection or road segment is operating based on traffic volume and geometric conditions. The level of service “scale” represents the full range of operating conditions. The scale is based on the ability of an intersection or street segment to accommodate the amount of traffic using it, and can be used for both existing and projected conditions. The scale ranges from “A” which indicates little, if any, vehicle delay, to “F” which indicates significant vehicle delay and traffic congestion.

**Local Street** – Comprises all facilities not included in a higher system. Its primary purpose is to permit direct access to abutting lands and connections to higher systems. Usually through-traffic movements are intentionally discouraged. Local streets can be defined as either Urban or Rural. Urban Local Streets are all remaining streets in an urban area that link to higher classifications. Rural Local Streets are all remaining streets outside the urban areas that provide access to adjacent land. Posted speed limits on local roads typically range from 25 mph to 35 mph.

**Major Street Network (MSN)** – The network of roadways defined for the Transportation Plan effort that include the interstate, principal arterials, minor arterials, collectors and some local streets.

**Minor Arterial Street** – Interconnects with and augments the Principal Arterial system. It also provides access to lower classifications of roads on the system and may allow for traffic to directly access destinations. They provide for movement within sub-areas of the city, whose boundaries are largely defined by the Principal Arterial road system. They serve through traffic, while at the same time providing direct access for commercial, industrial, office and multifamily development but, generally, not for single-family residential properties. The purpose of this classification of road is to increase traffic mobility by connecting to both the Principal Arterial system and also providing access to adjacent land uses. Minor Arterials are generally defines as either Urban Minor Arterials or Rural Minor Arterials. Urban Minor Arterials interconnect with Urban Principal Arterials. Rural Minor Arterials link cities and larger towns and interconnects the network of arterial highways. Posted speed limits on minor arterials typically range from 25 mph to 55 mph.

**Multi-modal** – A transportation facility for different types of users or vehicles, including passenger cars and trucks, transit vehicles, bicycles, and pedestrians.

**Oversaturation** – A traffic condition in which the arrival flow rate exceeds capacity on a roadway lane or segment.

**Peak Hour** – The hour of greatest traffic flow at an intersection or on a road segment. Typically broken down into AM and PM peak hours.

**Road Failure** – A condition by which a road has reached maximum capacity or has experienced structural failure.

**Principal Arterial Street** – Is the basic element of a city's road system. All other functional classifications supplement the Principal Arterial network. Access to a Principal Arterial is generally limited to intersections with other principal arterials or to the interstate system. Direct access is minimal and controlled. Principal Arterials are generally defined as either Urban Principal Arterials or Rural Principal Arterials. Urban Principal Arterials serve the major centers of activity, the highest traffic volume corridors, and the longest trip distances in an urbanized area. This classification of roads carries a high proportion of the total traffic within an urban area. Rural Principal Arterials serve as the predominant route between major activity centers, have long trip distances, experience heavy travel densities and provide service to most large urban areas. The major purpose of Principal Arterials is to provide for the expedient movement of traffic. Posted speed limits on principal arterials typically range from 25 mph to 70 mph.

**Running speed** - The actual vehicle speed while the vehicle is in motion (travel speed minus delay).

**Service Life** – The design life span of roadway based on capacity or physical characteristics.

**Project Oversight Committee (POC)** – The oversight committee that guided the development of this Transportation Plan. The committee is comprised of 7 members and includes representatives from the City of Whitefish, the Montana Department of Transportation (MDT), and the Federal Highway Administration (FHWA). The committee is not a standing committee in the community and was set up to oversee this project's development only.

**Transportation Analysis Zone (TAZ)** – Geographical zones identified throughout the study area based on land use characteristics and natural physical features for use in the traffic model developed for this project.

**Transportation Demand Management (TDM)** - Programs designed to maximize the people-moving capability of the transportation system by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel.

**Travel speed** - The speed at which a vehicle travels between two points including all intersection delay.

**Volume to Capacity (V/C) Ratio** – A qualitative measure comparing a roads theoretical maximum capacity to the existing (or future) volumes. Commonly described as the result of the flow rate of a roadway lane divided by the capacity of the roadway lane.

**ACRONYMS**

<b>AASHTO</b>	<b>American Association of State Highway and Transportation Officials</b>
<b>CAC</b>	<b>Citizen Advisory Committee</b>
<b>CFR</b>	<b>Code of Federal Regulations</b>
<b>CIP</b>	<b>Capital Improvement Program</b>
<b>FAA</b>	<b>Federal Aviation Administration</b>
<b>FHWA</b>	<b>Federal Highway Administration</b>
<b>HCM</b>	<b>Highway Capacity Manual</b>
<b>HCS</b>	<b>Highway Capacity Software</b>
<b>ISTEA</b>	<b>Intermodal Surface Transportation Efficiency Act</b>
<b>ITE</b>	<b>Institute of Transportation Engineers</b>
<b>MDT</b>	<b>Montana Department of Transportation</b>
<b>MUTCD</b>	<b>Manual on Uniform Traffic Control Devices</b>
<b>NEPA</b>	<b>National Environmental Policy Act</b>
<b>POC</b>	<b>Project Oversight Committee</b>
<b>TEA-21</b>	<b>Transportation Efficiency Act for the 21<sup>st</sup> Century</b>
<b>SAFETEA-LU</b>	<b>Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users</b>